

Modeling Diesel Fuel Effects on Emissions

*FACA/CAAAC Mobile Sources
Technical Review Subcommittee
1/17/01*

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Overview

Objective

Analysis Plan

General Approach

Schedule

Background

Questions

Plan of Action

Contacts

Objective

Quantify effects of diesel fuel parameters

- Fuel parameters:
 - cetane, aromatics, T90, density, sulfur, oxygen, etc.
- Pollutants
 - NO_x, HC, and PM
- Vehicles
 - HD highway and nonroad

Diesel Fuels Analysis Program

- General approach
 - Short-term project
 - Involve states, industry, and other stakeholders
 - Perform high-quality, thorough analysis of existing data
 - Publish technical report

Background

- There have been over 50 studies of the effects of diesel fuel properties on emissions since the standards for low sulfur highway diesel were set
- Preliminary OTAQ review suggests need to reconsider estimates on emissions benefits

Action Plan

- Obtain data/studies to analyze and develop analysis plan
- Post analysis plan and list of test data sources on website
- Perform regression analysis to estimate effects of diesel fuel parameters- assess national inventory impacts
- Report and receive comment on regression study
- Provide instruction for local areas to quantify alternative diesel fuel formulations for specific local fleets and calendar years

Analysis Plan

- Choose studies that meet certain criteria:
 - No. 2 diesel fuel meeting ASTM D-975
 - Production-level heavy-duty CI engines
 - Data is readily available
- Prepare database

Analysis Plan (cont.)

- Regression analysis
 - Similar development procedure as Complex Model
- Preparation of model
 - Apply appropriate estimates to engine groups by calendar year
 - Extension to nonroad

Proposed Schedule:

12/21/00	Inform major stakeholders of general approach.
1/19/01	Post FACA presentation on website.
1/26/01	Post analysis plan on website.
1/31/01	Stakeholder data/studies due to EPA for possible inclusion in analysis.
3/02/01	Complete data analysis.
3/20/01	Post EPA draft technical report on website.
4/09/01	Comments on report due to EPA.
5/15/01	Release final report.



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Team Website:

www.epa.gov/otaq/models/analysis.htm